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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,905	07/03/2003	Yoshitaka Ichii	238370US90DIV	3616

22850 7590 11/21/2003

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EXAMINER

SCHEUERMANN, DAVID W

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/611,905

**Applicant(s)**

ICHII ET AL.

**Examiner**

David W. Scheuermann

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/881,693.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Additionally, note the following paragraph quoted from the MPEP.

**MPEP § 2172.01 Unclaimed Essential Matter**

A claim which omits matter disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 U.S.C. 112, first paragraph, as not enabling. In re Mayhew, 527 F.2d 1229, 188 USPQ 356 (CCPA1976). See also MPEP § 2164.08(c). Such essential matter may include missing elements, steps or necessary structural cooperative relationships of elements described by the applicant(s) as necessary to practice the invention.

Claims 1, 3, 5, 6, and 8-11 are rejected under 35 U.S.C. 112, first paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the electromagnetic driving part and the spring member as recited in claim 2, for example. Without these two essential elements, the moving part and the amplitude control spindle will not reciprocate at a resonance frequency as set forth in claim 1.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 has a period in the middle of the claim, after "system", which renders the claim unclear.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by a "piercing portion." Also, isn't the shaft part of the "moving part"? It is also unclear whether the shaft or the amplitude control spindle has a portion of nonmagnetic substance. The meets and bounds of this claim cannot be determined.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5- 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Wing, US 4549535. Wing shows the invention as claimed. See Wing figure 1 which depicts a moving part 13, a case 10, and amplitude control spindle 14. Note in column 4, lines 21-29 that a state of resonance is manifested by standing waves set up in the body material (to which the plunger 12 is pressed).

As to claim 4, note electromagnetic coil 32. Re claim 7, note in figure 3 that moving part 13 is connected to control spindle 24 which in turn is connected to the body

when in use. Each additional element adds greater mass. As to claim 6 the outside diameters of spindle 24 of Wing lie in sufficiently close proximity to the mating surfaces in housing 10 to prevent rocking. Re claims 8 and 9, as best understood, note that shaft extensions 15 are formed of non-magnetic materials as set forth in columns 2, lines 27-29. Finally, as to claim 10 and 11, note that take out shaft 14 is restricted in axial rotation due to spring 26 and spring slot 29.

Claims 1-7 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by D'ewart, Jr. US 3525887. D'ewart, Jr. shows a linear oscillator (note figure 19) comprising:

A moving part 308 reciprocating;  
a case 284 containing incorporating said moving part; and  
an amplitude control spindle 264 and 262 supported in said case to be movable, wherein said moving part and said amplitude control spindle reciprocate at a resonance frequency of said linear oscillator or a frequency in a vicinity thereof  
and  
an electromagnetic driving part 277 and 279 housed in said case, for reciprocating said moving part and  
a spring member 22 and 20 disposed at least between said case and said moving part, and a spring member 22 and 18  
between said case and said amplitude control spindle, for forming a spring oscillation system  
wherein a resonance frequency of said spring oscillation system is equal to a

resonance frequency of said linear oscillator or a frequency in a vicinity thereof.

Re claim 3 note that the upper mass comprising 264 and 262 reciprocates in opposite phase of moving part 308

As to claims 6, 10, and 11, note that spring holders, for example 273, serve to prevent axial rotation.

Re claim 7, note that the mass of the magnet end mass is four times as large as the power output end mass as described in column 13, lines 50-53.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goldowsky shows a linear oscillator with an amplitude control spindle 104, which controls stroke length by controlling coil current. Zhang used both magnet and coils springs to control stroke length of a linear motor compressor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is (703) 308-9637. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone

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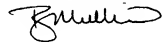
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numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dws  
November 12, 2003

**BURTON S. MULLINS**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'B. Mullins', written in a cursive style.